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Environmental Fact Sheet

MILESTONE! FIFTH RULEMAKING FINALIZES LAND DISPOSAL RESTRICTIONS

On May 8, 1990, the Administrator of the Environmental Protection Agency (EPA) William K. Reilly, signed the final rule prohibiting the land disposal of hazardous wastes unless they have been treated according to established treatment standards, or have been placed in EPA-approved no-migration units. This rule is the last in a series mandated by Congress under the Hazardous and Solid Waste Amendments (HSWA) in 1984.

This promulgation completes a six-year program which will result in extensive and important changes in hazardous waste management practices. The Land Disposal Restrictions program will significantly improve the quality of the environment by diminishing the toxicity of wastes being land disposed. It will continue to serve as a pollution prevention measure and encourage all hazardous waste management facilities to find ways to minimize their waste.

As a result of the "land ban" program, hazardous waste management facilities have been developing more economic and effective ways of treating and disposing of wastes. In addition to physical, chemical, and/or biological processes, industry is rapidly developing new treatment technologies to destroy, detoxify, or incinerate hazardous waste. Methods are also being explored on ways to recover and reuse waste, and on ways to reduce the volume of hazardous waste requiring treatment or disposal.

The goals of the Land Disposal Restrictions program are to eliminate unacceptable risks to human health and the environment and provide acceptable alternatives for hazardous waste management.

BACKGROUND

In the 1984 amendments to the Resource Conservation and Recovery Act (RCRA), Congress instructed the Agency to ban untreated wastes from land disposal because it was concerned about improper land disposal practices and about the high volume of hazardous waste being land disposed. EPA had to establish treatment standards for all hazardous wastes destined for land disposal which substantially reduces the toxicity or mobility of the hazardous constituents in the waste.

Strict statutory deadlines were imposed on the Agency to regulate the land disposal of specific hazardous wastes, concentrating first on the

most harmful. Running on a tight schedule, the Agency has met all of the Congressionally mandated dates.

On November 8, 1986, the first prohibitions were established for hazardous wastes of particular concern to the public—certain spent solvents and dioxin-bearing wastes.

The second group of hazardous waste singled out by Congress is collectively known as the "California List." "California List" wastes are liquid and nonliquid hazardous wastes containing halogenated organic compounds (HOCs) above 1,000 ppm, and liquid hazardous wastes containing polychlorinated biphenyls (PCBs) above 50 ppm, certain toxic metals above specified statutory concentrations, or corrosive liquid wastes that have a pH level below two. These wastes were regulated on July 8, 1987.

All other wastes listed and identified as of November 8, 1984 were divided into thirds and scheduled for regulation based on their intrinsic toxicity and volume generated. Restrictions were imposed on the First Third on August 8, 1988, on the Second Third on June 8, 1989, and on the Third Third on May 8, 1990.

These five rulemakings prohibit land disposal of untreated hazardous waste in any surface impoundment, landfill, waste pile, injection well, land treatement facility, salt dome formation, underground mine or cave, or other enclosure intended for disposal purposes. Hazardous wastes that do not meet treatment standards may be land disposed only if they are disposed of in approved no-migration units.

As required by the 1984 amendments, each regulation established treatment standards relevant to the hazardous wastes covered by the rule. In general, the Agency sets treatment standards as maximum concentration levels of hazardous constituents in treated waste based on the performance of best demonstrated available technologies (BDAT). Treatment standards are also expressed as specific technologies when data is inadequate to set concentration levels or when it is determined that one method (such as incineration) is the most appropriate way to manage the waste.

The Agency may grant treatability variances to accommodate cases where the standard cannot be achieved because unique properties of the waste interfere with treatability. In addition, EPA may grant an extension of the effective date due to the lack of sufficient capacity to manage hazardous wastes. The Agency has granted two-year national capacity variances to the statutory deadlines when current or alternative treatment, recovery, and disposal capacity has not been adequate for waste management needs. Variances for specific wastes have been granted on a case-by-case basis depending on treatment technology,

capacity, and other factors. Wastes granted capacity extensions that are placed in a landfill or surface impoundment must be disposed at facilities which meet the minimum technology requirements such as double liners, leachate collection, and ground-water monitoring.

In addition to treatment and prohibition standards, the "land ban" program has established strict operating and compliance standards for land disposal facilities as well as stringent requirements for hazardous waste generators and treatment, storage, and disposal facilities (TSDFs). All hazardous waste management facilities must test treated waste to verify that it meets the standard, and—ultimately—the land disposal facility must ensure all waste is disposed in compliance with the land disposal restrictions.

ACTIONS

Solvents and Dioxins (November 8, 1986)

Most solvents are used to dissolve or mobilize other materials and are generally considered hazardous waste when they are no longer fit for use or "spent." Examples of spent solvents include degreasers, cleaners, and dilutents. These are the F-coded hazardous wastes, and include such constituents as acetone, carbon tetrachloride, and cresols. Solvent waste BDAT treatability included in this rule are: steam stripping, biological treatment, and incineration.

Dioxin wastes are primarily soil and debris from hazardous waste site cleanups. There are no treatability standards for dioxins. Dioxins must be incinerated and require nearly 100 percent destruction and removal efficiency.

"California List" Wastes (July 8, 1987)

The waste groups covered in this regulation include liquid and nonliquid HOCs; liquid hazardous wastes containing certain concentrations of PCBs; the toxic metals arsenic, chromium VI, mercury, selenium, cadmium, lead, nickel, or thallium; free cyanides; and corrosive liquid hazardous waste. HOC wastewaters, toxic metals, free cyanides, and corrosive liquids must be treated to levels below the statutory prohibition or made nonliquid before land disposal. All liquid and nonliquid HOCs in concentrations greater than 1000 mg/l require incineration with nearly 100 percent destruction and removal efficiency. PCBs above 50 ppm fall under the technical requirements of the Toxic Substances Control Act (TSCA) and require thermal treatment under 40 CFR 761.

First Third of the Scheduled Wastes (August 8, 1988)

This rule covers 183 hazardous wastes, and sets treatment standards and prohibitions for the "worst" wastes. It regulates some of the F-coded wastes such as bath solutions from electroplating processes; some of the K-coded wastes such as acetonitrile production wastes;

and some of the P- and U-coded wastes which are discarded commercial chemical products such as formaldehyde. Treatment standards were not set for some wastes containing cyanide (F-coded) which allowed the automatic statutory restrictions on land disposal to become effective. This rulemaking banned the land disposal of 62 wastes and set restrictions on 121 others.

Second Third of the Scheduled Wastes (June 8, 1989)
Treatment standards for 67 additional wastes and for the F-coded wastes not addressed in the First Third are established in this rulemaking. Besides specifying BDAT treatment standards, this rule expressed treatment standards as concentrations measured in the treatment residues or required specific treatment methods (such as incineration) for some wastes.

Third Third of the Scheduled Wastes (May 8, 1990)
This fifth and final rulemaking set treatment standards and imposed restrictions on 344 listed wastes, five newly listed wastes, and all of the characteristic wastes. Two-thirds of the listed wastes have treatment standards expressed as concentrations in the treated wastes, while the remaining wastes have treatment standards expressed as specific technologies.

For the characteristic wastes, treatment below the characteristic levels are required for EP toxic pesticide nonwastewaters and reactive cyanides. Methods that will treat below the characteristic levels are specified for certain nonwastewater ignitables and for EP toxic pesticide wastewaters. For EP toxic metals and certain ignitable, reactive, and corrosive wastes, concentrations are at the characteristic level, except for selenium. In this case, the treatment standard for selenium is above the characteristic level based on the available data. Wastes that are both listed and characteristic must be treated with the standard applicable to the listed waste. When a listed waste also exhibits a characteristic not addressed by the treatment standard for the listed waste, the treatment standard for the characteristic also must be met prior to land disposal.

CONCLUSION

Treatment standards have been established for all wastes listed or identified before November 8, 1984. The Agency will continue to set treatment standards or initiate land disposal prohibitions on all wastes listed or identified subsequent to that date.

CONTACT

For further information on the Land Disposal Restrictions program, please contact the RCRA Hotline, Monday-Friday, 8:30 a.m. to 7:30 p.m., EST. The national toll-free number is (800) 424-9346; for the hearing impaired, it is TDD (800) 553-7672. In Washington, D.C., the number is (202) 382-3000 or TDD (202) 475-9652.